

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A nucleic acid construct for expression of a small peptide, comprising:

a nucleic acid sequence encoding a signal peptide;

a nucleic acid sequence encoding the pro-region of a somatostatin, or a functional fragment of the pro-region of a somatostatin sufficient to promote secretion from a cell, or a variant ~~thereof~~ of the pro-region of a somatostatin wherein the variant ~~which~~ differs from the wild-type amino acid sequence by at least 1 but not more than 15 amino acid residues, ~~wherein the variant and~~ is sufficient to promote secretion from a cell; and

a nucleic acid sequence encoding a small peptide other than somatostatin.

2. (Previously Presented) The construct of claim 1, wherein the nucleic acid sequence encoding the signal peptide is from a nucleic acid sequence encoding the pre-region of a somatostatin.

3. (Previously Presented) The construct of claim 1, wherein the small peptide is a small peptide hormone.

4. (Previously Presented) The construct of claim 1, wherein the small peptide is an anti-diabetic peptide.

5. (Previously Presented) The construct of claim 4, wherein the anti-diabetic peptide is selected from the group consisting of glucagon-like peptide-1 (GLP-1), exendin-4, gastric inhibitory polypeptide and analogs thereof.

6. (Previously Presented) The construct of claim 1, wherein the construct further comprises a nucleotide sequence encoding a cleavage site between the sequence encoding the pro-region and the sequence encoding the small peptide.

7. (Canceled)

8. (Previously Presented) The construct of claim 6, wherein the cleavage site is a multibasic, dibasic or monobasic cleavage site.

9. (Previously Presented) The construct of claim 6, wherein the cleavage site is an endoprotease cleavage site.

10. (Previously Presented) The construct of claim 9, wherein the cleavage site is recognized by a pro-protein convertase.

11. (Original) The construct of claim 10, wherein the pro-protein convertase is furin, subtilisin-related pro-protein convertase, PC1, PC2, PC6 or PC7.

12. (Original) The construct of claim 1, further comprising at least one regulatory sequence.

13. (Original) The construct of claim 1, wherein the small peptide is GLP-1.

14. (Currently Amended) A non-endocrine cell comprising a nucleic acid sequence that encodes a fusion protein that comprises (a) a signal peptide, (b) a pro-region of a somatostatin or a functional fragment of the pro-region of a somatostatin sufficient to promote

secretion from a cell or a variant thereof of the pro-region of a somatostatin wherein the variant  
~~which~~ differs from the wild-type amino acid sequence by at least 1 but not more than 15 amino  
acid residues, ~~wherein the variant~~ and is sufficient to promote secretion from a cell, and (c) a  
small peptide other than somatostatin, the cell being capable of secreting the small peptide.

15-16. (canceled)

17. (Previously Presented) The cell of claim 14, wherein the encoded fusion protein  
further comprises a cleavage site between the pro-region and the small peptide.

18. (Canceled)

19. (Currently Amended) The cell of claim 14, wherein the cell is capable of  
expressing the small peptide in mature form without the signal peptide and pro-region of  
somatostatin.

20. (Canceled)

21. (Original) The cell of claim 14, wherein the cell is a primary cell.

22. (Original) The cell of claim 14, wherein the cell is a secondary cell.

23. (Original) The cell of claim 14, wherein the cell is a mammalian cell.

24. (Original) The cell of claim 23, wherein the cell is a human cell.

25. (Original) The cell of claim 23, wherein the cell is a fibroblast or a myoblast.

26. (Previously Presented) The cell of claim 14, wherein the cell is one in which  
somatostatin is not normally expressed.

27. (Currently Amended) The cell of claim 14, wherein the nucleic acid sequence that encodes the fusion protein is operably linked to ~~further comprising~~ at least one regulatory sequence sufficient for expression of the fusion protein in the cell.

28. (Previously Presented) The cell of claim 14, wherein the signal peptide is from the pre-region of a somatostatin.

29. (Original) The cell of claim 14, wherein the small peptide is a small hormone.

30. (Original) The cell of claim 29, wherein the small peptide is an anti-diabetic peptide.

31. (Previously Presented) The cell of claim 30, wherein the anti-diabetic peptide is selected from the group of consisting of glucagon-like peptide-1 (GLP-1), exendin-4, gastric inhibitory polypeptide and analogs thereof.

32. (Currently Amended) The cell of claim 17 ~~18~~, wherein the cleavage site is a multibasic, dibasic or monobasic cleavage site.

33. (Original) The cell of claim 32, wherein the cleavage site is an endoprotease cleavage site.

34. (Previously Presented) The cell of claim 33, wherein the cleavage site is recognized by a pro-protein convertase.

35. (Original) The cell of claim 34, wherein the pro-protein convertase is furin, PACE4, subtilisin-related pro-protein convertase, PC1, PC2, PC6 or PC7.

36. (Original) The cell of claim ~~17~~ 18, wherein the cleavage site is a blood coagulation factor cleavage site.

37. (Original) The cell of claim 14, wherein the small peptide is GLP-1.

38. (Original) A method of making a small peptide comprising culturing the cell of claim 14 to thereby obtain a small peptide.

39. (Currently Amended) The method of claim 38, wherein the small peptide is obtained in mature form without the signal peptide and pro-region of somatostatin.

40. (Original) The method of claim 38, wherein the small peptide is obtained as part of a fusion peptide which further comprises the pro-region of somatostatin or a functional fragment thereof.

41. (Previously Presented) A method of making a cell capable of secreting a small peptide, comprising:  
providing a non-endocrine cell; and  
introducing into the cell a nucleic acid construct of claim 1 or 6 to thereby obtain a cell capable of expressing the small peptide.

42. (Original) The method of claim 41, wherein the cell is a primary cell.

43. (Original) The method of claim 41, wherein the cell is a secondary cell.

44. (Original) The method of claim 41, wherein the cell is a mammalian cell.

45. (Previously Presented) The method of claim 41, wherein the sequence encoding the signal peptide is from the nucleic acid sequence encoding the pre-region of a somatostatin.

46. (Original) The method of claim 41, wherein the small peptide is GLP-1.

47-82. (canceled)

83. (Currently Amended) A nucleic acid construct for expression of GLP-1, comprising: a nucleic acid sequence encoding a fusion protein comprising a signal peptide from the pre-region of somatostatin; the pro-region of a somatostatin or a functional fragment or variant analog thereof wherein the fragment or variant is sufficient to promote secretion from a cell and wherein the variant differs from the wild-type amino acid sequence by at least 1 but not more than 15 amino acid residues; and GLP-1.

84. (Previously Presented) A non-endocrine, mammalian cell comprising a nucleic acid sequence encoding a fusion protein comprising: a signal peptide, the pro-region of somatostatin, and a small peptide other than somatostatin, wherein the cell secretes the small peptide.

85. (Previously Presented) The cell of claim 84, wherein the small peptide is a peptide hormone.

86. (Previously Presented) The cell of claim 84, wherein the cell is a human cell.

87. (Previously Presented) The cell of claim 84, wherein the cell is a fibroblast.

88. (Previously Presented) The cell of claim 84, wherein the small peptide is GLP-1.

89. (Previously Presented) A non-endocrine, human cell comprising a nucleic acid sequence encoding a fusion protein comprising: the prepro-region of somatostatin and GLP-1, wherein the cell secretes GLP-1.

90. (Previously Presented) The construct of claim 1, wherein the variant of the pro-region of somatostatin differs from the wild-type amino acid sequence by at least 1 but not more than 10 amino acid residues.

91. (Previously Presented) The construct of claim 1, wherein the variant of the pro-region of somatostatin differs from the wild-type amino acid sequence by at least 1 but not more than 5 amino acid residues.

92. (Previously Presented) The cell of claim 14, wherein the variant of the pro-region of somatostatin differs from the wild-type amino acid sequence by at least 1 but not more than 10 amino acid residues.

93. (Previously Presented) The cell of claim 14, wherein the variant of the pro-region of somatostatin differs from the wild-type amino acid sequence by at least 1 but not more than 5 amino acid residues.